

REMARKS

Claims 1-28 are pending in the present application. Claims 1, 3, 4, 13, 19-21, and 28 were examined and stand rejected, and claims 2, 5-12, 14-18, and 22-27 were withdrawn from consideration. Applicant respectfully traverses the rejections and request reconsideration in light of the remarks that follow.

It is first noted once again that claims 2, 5-12, 14-18, and 22-27 were withdrawn from consideration as allegedly being drawn to a distinct species. Applicant again asserts that because all the independent claims, which are generic to all of the alleged species, are in condition for allowance as will be set forth more fully below, claims 2, 5-12, and 14-18 are allowable at least due to their dependence upon the allowable generic claims and should be rejoined.

Claims 1, 3, 4, 13, and 19-21 were rejected under 35 USC §103(a) as being unpatentable over Kamp (U.S. Patent No. 4,899,025) in view of Ito et al. (U.S. Patent No. 5,379,021). Applicant respectfully traverses this rejection for the following reasons.

The present Office Action, in rejecting claims 1, 3, 4, 13, and 19-21, yet again appears to only address the specific claimed elements of claims 19-21, as well as claim 13 somewhat obliquely. Accordingly, Applicant will address all of the rejected claims based on what may be inferred from the specific rejections and past Office Actions.

Independent claim 1 features, among other things, “an inductive coupling assembly including an inductive coupling sleeve coupled to a first end of a cable assembly, the inductive coupling sleeve having a secondary coil positioned therein and electrically coupled with the cable assembly.” In the present rejection, Kamp is alleged to teach all of the elements of claim 1 except for the claimed “cable assembly” and the “inductive coupling sleeve.” The cable assembly is baldly asserted to obvious and Ito is then asserted as teaching the coupling sleeve.

It is noted here that on page 5 of the present Office Action in response to the above statement (and on page 3, first paragraph, of the rejection), it is asserted that it would have been obvious to replace these power lines with a cable assembly known in the art, notably without a stated motivation to do so. Notwithstanding the absence of a stated motivation to modify, this assertion of obviousness is believed to be untenable. The claimed “cable assembly” is a bound or sheathed group of electrical conductors as illustrated by reference numbers 24, 58, 72, 104, and 164 in the various drawings of the present application that electrically couple an induction

assembly (e.g., the claimed “inductive coupling assembly”) to a work head attachable to an end of the cable assembly. Although it might be conceivable to sheath a portion of the supply lines 11 of Kamp, the entirety of lines 11 could not be commonly sheathed since they form coils 5 and 7 of supply inductors 2 and 3, which are necessarily positioned on opposing sides of cathode ray tube 4 and must be movable or adjustable (col. 2, ll. 18-26). Thus, it would not be obvious to modify the entirety of lines 11 and fashion them as uniform cable assembly.

Further with respect to Ito et al., although teaching a inductive coupler, this reference does not teach or suggest “an inductive coupling sleeve coupled to a first end of a cable assembly, the inductive coupling sleeve having a secondary coil positioned therein and electrically coupled with the cable assembly.” Although the present Office Action characterizes the movable inner case 2 of Ito et al. as an “inductive coupling sleeve,” this characterization is not consistent with the teachings of Ito et al. Rather, the element 2 in Ito et al. is a movable inner case 2 with two secondary cores 3, 4 and windings 5. The inner case 2 is, in turn, housed and moved within a stationary outer case 1 and combination of the two cases 1 and 2 define a receptacle for a primary coil case 6 to be inserted therein. The assembly further includes a complex assembly of either springs, racks, or gears (See Figs. 8, 9, 11, and 12) to bring the cores 3, 4 together as the primary coil case 6 is inserted into the cases 1, 2. . This entire assembly is not the same as a cable assembly having a coupling sleeve. Furthermore, the secondary coils 5 of Ito et al. are not distinctly part of a cable assembly or positioned within a coupling sleeve as featured in claim 1. Accordingly, Applicant submits that Ito et al. fails to teach the elements of the present claim it is alleged to teach.

In the present Office Action the response to the above arguments, as asserted on page 5, states that “it would have been obvious to combine Kamp and Ito inventions [sic] since Kamp’s replacement of his power lines with the cable assembly make this combination appropriate and feasible.” This response, however, fails to appreciate Applicant’s arguments that the disclosure of Ito is very specific assembly that does not teach or suggest a coupling sleeve with a secondary coil that would be usable as part of cable assembly, regardless of whether Kamp’s lines 11 could be partly fashioned as a cable assembly. As stated above, the secondary windings 5 of Ito et al. are not distinctly part of a cable assembly or positioned within a coupling sleeve (or even an equivalent device), which is in contrast to the features in claim 1. Furthermore, it would not be

obvious or feasible given the teachings of Ito to modify them such that the secondary winding is disposed in a cable assembly.

Moreover, Applicant respectfully submits that the asserted motivation to combine is not based on convincing reasoning. Recognizing that rationale to combine do not necessarily need to be stated in the prior art and can be different from Applicant's rationale, the presented rationale still must be based on convincing reasoning (See MPEP §2144). That is, the strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. The stated reason to "reduce production costs" is not convincing since it would be evident that the addition of a complex assembly, such as that of Ito et al., would in fact raise the production cost of the assembly of Kamp, not reduce the production cost. Sound reason, on the other hand, is generally that adding more parts to an assembly will only increase the cost to produce that assembly, not reduce the cost.

Also, if the Office Action perhaps intended to assert the combination may reduce operational costs by eliminating the need to replace an entire assembly in the event of failure, this may have some merit in certain combinations. However, this rationale would not make sense in the context of the combination of Kamp and Ito et al. given that the stated problem to be solved for making the combination is "facilitating the assembly and disassembly of the inductive heating device..." The actual inductive heating device in Kamp comprises the inductors 2, 3 in combination with conductive supports 9 and 10 within a cathode ray tube 4. Thus, it is somewhat nonsensical to assert that the assembly of Ito et al. would be pertinent to facilitating assembly and disassembly of the inductors 2, 3 and the supports 9, 10, since one merely has to move the cathode ray tube 4 between the inductors 2, 3 in Kamp to "assemble" the actual inductive heating device. To add the coupler of Ito et al. to Kamp for achieving that purpose would simply be superfluous, and, in reality, untenable.

Moreover, to assert that it would be obvious to inductively couple the primary coil 24 in Kamp to the secondary coil 13 is also a dubious assertion, since this would likely render Kamp unfit for its intended construction. It is to be noted that the inductive coupling of Ito et al. is merely for energy transfer, not for voltage transformation as is done by the generator 1 of Kamp.

Specifically, Kamp requires that the secondary winding 13 be composed of a single turn around a core 12 (See col. 2, ll. 55-56). An inductive coupling with a single winding on the secondary of the inductive coupling would likely not be efficacious to actually deliver the proper current to the inductors 2 and 3, as well as accomplish a voltage transformation (which is not contemplated nor actually feasible with the system of Ito et al.). Further, such an arrangement would also increase both production and operational costs since the replacement “parts” in the combination of Kamp with Ito et al., would be the parts of the transformer of generator 1. To add the complexity of an inductive coupling to this, whether in original production or for replacement would add cost to the system of Kamp, not reduce costs. It makes better economical sense to simply replace the high frequency generator made simply with a coil wound transformer, than essentially replace the same parts having the added complexity and cost of an inductive coupling.

In response to the above argument, the present Office Action asserts that “it has been held that mere duplication of the essential working parts — several winding turns [sic] involves only routine skill in the art,” citing *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (7th Cir. 1977) in support. Although in *St. Regis Paper* where the mere redundancy of layers to provide strength in the paper bag art was deemed obvious, the present cited reference (Kamp) provides an explicit teaching that a single turn is actually desirable (col. 2, ll. 50-53). Thus, to deviate from this explicit teaching and add further turns to a transformer is not a case of “mere duplication” as asserted, but will indeed effect a change in the voltage and current, and thus the resultant operation. This argument might have had a modicum of merit if the fact patterns in the present rejection were not distinguishable from *St. Regis Paper*; namely if Kamp was not explicit in specifying only one turn on the secondary side of the transformer. This, however, is not the case and the assertion thus fails to correctly appreciate and apply the holding of *St. Regis Paper*.

In light of the foregoing comments, claim 1 is submitted to be allowable over Kamp and Ito et al., either alone or in combination.

Dependent claims 3 and 4 depend from claim 1 and are believed to be allowable for at least the same reasons and also on their own merits. Furthermore, claim 1 is generic to withdrawn claims 2 and 5-12 and these claims should be rejoined for examination based on the allowability of claim 1.

With respect to independent method claim 13, this claim features, among other things, “coupling a sleeve disposed at a first end of cable assembly to the power supply, where the sleeve includes a secondary coil and a second portion of inductor core where the sleeve encloses at least a portion of the second coil and at least a portion of the second portion of the inductor core.” Applicant respectfully submits that the cited references, either combined or taken separately, fail to teach or suggest the coupling of a sleeve with a power supply. Moreover, as argued above in response to the remarks in the present Office Action, the cited references do not teach or suggest a cable assembly with a sleeve disposed at one end thereof having a secondary coil and a portion of an inductor core where the sleeve includes a secondary coil and a second portion of inductor core where the sleeve encloses at least a portion of the second coil and at least a portion of the second portion of the inductor core. Neither the putatively obvious “cable assembly” of Kamp nor the assembly of Ito would reasonably be contemplated by one skilled in the art to be so modified to meet these claimed elements. Accordingly, claim 13 is submitted to be allowable over Kamp and Ito et al. because these references do not teach or suggest all of the elements of the claim, either taken singly or in combination.

Concerning independent claim 19, the Office Action repeats an assertion that the cathode ray tube 4 of Kamp is taught to be electrically coupled to the secondary coil 13. Applicant again respectfully submits that secondary coil 13 is not electrically coupled to the supports or the tube 4, but magnetically coupled. Thus, the teachings of Kamp still fall short of the claimed term “the secondary coil being electrically coupled to the work head.” Also of note here, the claim language further distinguishes electrical coupling and magnetic coupling, so it cannot be said that supports 9 and 10 are “inherently” electrically coupled, when they are in fact only magnetically coupled. The additional teachings of Ito et al. do not make up for this deficiency. Most notably, the present Office Action relies on Ito et al. as only providing a teaching of removably coupling a primary coil (i.e., coil 24 in Kamp) from a secondary coil (i.e., coil 13 in Kamp). Thus, this does not address or resolve the untenable assertion that tube 4 is “electrically coupled” to the secondary coil 13, when in fact it is not.

Accordingly, for at least the reason above, claim 19 is believed to be allowable over the teachings of Kamp, and Ito et al., either taken separately or combined.

Dependent claims 20 and 21 depend from claim 19 and are thus allowable for at least the same reasons presented above, as well as on their own merits'.

Claim 28 was rejected under 35 USC §103(a) as being unpatentable over Kamp in view of Ito et al. Applicant respectfully traverses this rejection for the following reasons.

With respect to independent claim 28, the Office Action asserts that Kamp discloses all of the elements of this claim except for the inductive coupling removably coupling the coils. Applicant respectfully disagrees.

Claim 28, features, among other things, "a cable assembly having . . . a second end electrically coupled to a work head." As argued above with respect to claim 19, Kamp does not teach that tube 4 is "electrically coupled" to the secondary coil 13. Accordingly, Kamp does not meet the claim element above.

Furthermore, claim 28 features "a cable assembly having a first end electrically coupled to and at least partially enclosing a secondary coil." Ito et al. simply fails to teach such an element, since the coupler disclosed therein (e.g., cases 1 and 2) is neither a cable assembly nor a cable assembly configured to at least partially enclose a secondary coil. Accordingly, the cited references further fail to teach or suggest all of the elements of claim 28 and the present rejection should be withdrawn, accordingly.

In the responsive remarks on page 5 of the present Office Action it is asserted that "it would have been obvious to one having ordinary skill in the art to modify Kamp's invention to connect the second end of the his cable assembly to a working head (col. 1, lines 34-48) and to include a removable couple as taught by Ito in order to increase utilities [sic] of the induction device and also to reduce production costs by allowing easy disassembly of primary and secondary circuits." As repeatedly stressed above and in previous responses, Kamp does not teach a physical conductor connection of the cathode ray tube 4 (referred to in the Office Actions as the "work head" or "working head") and/or supports 9 and 10 within tube 4 to lines 11. Moreover, as argued above, the assertion that the modification of Kamp to include the coupler of Ito, thereby adding complexity, does not reasonably reduce production costs. Thus, this motivation is believed to be specious.

Furthermore, it is unclear what is meant by "increase utilities of the induction device." Is this suggesting other uses for the device of Kamp? If so, how would the addition of Ito's coupler

to Kamp provide other uses? Applicant respectfully submits that this assertion is unclear, and further that if different uses was the intent of the assertion that the addition of an inductive coupling would not increase the different uses for Kamp's device, which is ultimately used to inductively heat a getter inside a cathode ray tube.

In conclusion, Applicant respectfully submits that claims 1-28 are in condition for allowance and requests that a Notice of Allowance be issued in this case. Should the Examiner have any questions, please contact the undersigned.

Respectfully submitted,

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